DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

2A7
Revision 16
THRUSH AIRCRAFT, INC.
(Snow, Rockwell, Ayres)

S-2B
S-2C
600-S2C

September 2, 2003

TYPE CERTIFICATE DATA SHEET NO. 2A7

This data sheet which is part of Type Certificate No. 2A7 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulations and Federal Aviation Regulations.

Type Certificate Holder	Thrush Aircraft, Inc. 300 Old Pretoria Road P.O. Box 3149 Albany, Georgia 31706-3149
Type Certificate Holder Record	Snow Aeronautical Company transferred TC to North American Rockwell Corporation on February 18, 1970 North American Rockwell Corporation transferred TC to Rockwell International, Albany Aircraft Division on April 3, 1973 Rockwell International, Albany Aircraft Division transferred TC to Rockwell International, Commander Aircraft Division on July 27, 1973 Rockwell International, Commander Aircraft Division transferred TC to Ayres Corporation on November 28, 1977 Ayres Corporation transferred TC to Quality Aerospace on November 26, 2001 Quality Aerospace transferred TC to Thrush Aircraft, Inc. on July 30, 2003

I. - Model S-2B, 1 PCLM (Restricted Agricultural Category only), Approved July 29, 1958

Engine	Pratt & Whitney R-985-AN-1 or AN-3 One 4½ and one 9th order crankshaft damper
Fuel	87 minimum grade aviation gasoline
Engine Limits	For all operations, 2300 rpm (450 hp) Manifold pressure 37.5 in Hg. at sea level. 37.0 in. Hg. at 1500 ft. alt. Straight line variation between points given.
Propeller and Propeller Limits	Hamilton Standard, 2-position, 2D30 hub, 6101-12 blades Diameter: 108 in. max., 106 in. min. Pitch settings: 12° low and 18° high at 42 in. sta.
Airspeed limits	V_m (Maneuvering) 108 mph (94 K) CAS V_{ne} (Never exceed) 137 mph (119 K) CAS
C. G. Range	(+26.0) to (+30.2) at 2885 lb. (+23.6) to (+30.2) at 3460 lb. Straight line variation between points given.
Empty Weight C. G. Range	None.

Datum	Wing leading edge
Leveling Means	Top of longeron at the cockpit
Maximum Weight	3460 lb.
Number of Seats	1 (+108
Maximum Hopper Capacity	1000 lb. (+43)
Fuel Capacity	44 gallons (+42) (One 22 gallon tank in each wing, tanks interconnected.) Usable capacity: S/N 1003 and 1004 - 30 gallons S/N 1034, 1037, 1038, 1040, 1041, 1043, 1044, 1046, 1047, 1050B and up -- 40 gallons See NOTE 1 for data on unusable fuel.
Oil Capacity	S/N 1003 and 1004 - 9 gallons (+75), 8 gallons usable S/N 1034, 1037, 1038, 1040, 1041, 1043, 1044, 1046, 1047, 1050, 1050B, and up: -- 10.9 gallons (-10.6), 9.9 gallons usable.

Control Surface Movements					
	Elevator	Up	24°	Down	17°
	Elevator Tab	Up	14°	Down	23°
	Rudder	Left	17°	Right	17°
	Aileron	Up	22°	Down	18°

Serial Numbers Eligible	1003, 1004, 1034, 1037, 1038, 1040, 1041, 1043, 1044, 1046, 1047, 1050B, and up.

II. - Model S-2C, 1 PCLM (Restricted Agricultural Category only), Approved 12 May 1961

Engine	Pratt & Whitney R-985 AN-1 or AN-3 or AN14B One 4½ and 9th order crankshaft damper
Fuel	87 minimum grade aviation gasoline
Engine Limits	For all operations, 2300 rpm (450 hp) For R-985 AN-1 and AN-3 engines, manifold pressure 37.5 in Hg. at sea level, 37.0 in. Hg. at 1500 ft. alt. For R-985 AN14B engine, manifold pressure 36.5 in Hg. at sea level, 35.5 in Hg. at 3500 ft. alt. Straight line variation between points given.
Propeller and Propeller Limits	Hamilton Standard, 2-position, 2D30 hub, 6101-12 blades (See NOTE 5) Diameter: 108 in. max., 106 in. min. Pitch settings: 12° low and 15° high at 42 in. sta.

Airspeed Limits			
	V_m (Maneuvering)	117 mph (102 K)	CAS
	V_{ne} (Never exceed)	148 mph (128 K)	CAS

C. G. Range		
	S/N 1080C through 1137C:	(+23.6) to (+27.8)
	S/N 1138C through 1166C:	(+22.0) to (+25.8) (See NOTE 4).
	S/N 1167C through 1189C:	(+22.1) to (+26.6) (See NOTE 4).
	S/N 1190C and up:	(+25.1) to (+29.1)

Empty Weight C.G. Range	None
Datum	Wing leading edge
Leveling Means	Lower longeron below seat

Maximum Weight
S/N 1080C through 1189C - 3460 lb.
S/N 1190C and up - 4400 lbs.

Number of Seats
1 (+89.0)

Maximum Hopper Capacity
1000 lb. (+31.0)

Fuel Capacity
S/N 1080C through 1267C:
66 gallon (+38.5) (53 gallon usable capacity, one 33 gallon tank in each wing, tanks interconnected.) See NOTE 1 for data on unusable fuel.
S/N 1268C and up:
109 gallons (+38.5) (100 gallons usable capacity, one 54.5 gallon tank in each wing, tanks interconnected) See NOTE 1 for data on unusable fuel.

Oil Capacity
10.9 gallons (-9.5) (9.9 gallons usable)

Control Surface Movements
S/N 1080C through 1137C:

Elevator	Up	23°	Down	18°
Elevator Tab	Up	18°	Down	24°
Rudder	Left	17°	Right	17°
Aileron	Up	22°	Down	18°

S/N 1138C and up: (See NOTE 4)

Elevator	Up	22°	Down	17°
Elevator Tab	Up	12°	Down	18°
Rudder	Left	24°	Right	24°
Aileron	Up	21°	Down	17°

Serial Numbers Eligible
1080C and up

III. - Model 600 S-2C, 1 PCLM (Restricted Agricultural Category only), Approved 26 April 1962.

Engine
Pratt & Whitney R-1340 AN-1 with carburetor parts list setting 395118-3

Fuel
87 minimum grade aviation gasoline

Engine Limits
Maximum continuous

(sea level)	34.0 in. Hg.,	2200 rpm	(550 hp)
(5000 ft.)	32.5 in. Hg.	2200 rpm	(550 hp)

Take off (5 minutes) at sea level
36.0 in. Hg., 2250 rpm (600 hp)
Straight line variation between points given.

Propeller and Propeller Limits
Hamilton Standard constant speed 12D40 hub, 6101-12 blades
Diameter: 109 in. max., 107 min.
Pitch settings: 11.5° low and 23.5° high at 42 in. sta.

Airspeed Limits

V_m (Maneuvering)	117 mph (102 K)	CAS
V_{ne} (Never exceed)	148 mph (128 K)	CAS

C.G. Range
S/N 1118C, 1122C, 600-1123C through 600-1136C:
(+23.2) to (+27.3)

S/N 600-1137C through 600-1154C:
(+21.9) to (+25.8) (See NOTE 4)

S/N 600-1155C through 600-1189C:
(+23.1) to (+28.1) (See NOTE 6)

S/N 600-1190C through 600-1285C:
(+25.1) to (+29.1) (See NOTE 7)

S/N 600-1286C and up
(+25.1) to (+30.0)

Empty Weight C.G. Range: None.

Datum: Wing leading edge

Leveling Means: Top of lower longeron below cockpit

Maximum Weight:

S/N 1118C, 1122C, 600-1123C through 600-1189C:
3600 lb.

S/N 600-1190C through 600-1285C:
4400 lb. (See NOTES 7 & 8)

S/N 600-1286C and up:
4800 lb. (See NOTE 8)

Number of Seats: 1 (+89.0)

Maximum Hopper Capacity: 1000 lb. (+31.0)

Fuel Capacity:

S/N 1080C through 600-1253C:
66 gallon (+38.5) (53 gallon usable capacity, one 33 gallon tank in each wing, tanks interconnected.) See NOTE 1 for data on unusable fuel.

S/N 600-1254C and up:
109 gallons (+38.5) (100 gallons usable capacity, one 54.5 gallon tank in each wing, tanks interconnected). See NOTE 1 for data on unusable fuel.

Oil Capacity: 10.9 gallons (-9.5) (9.9 gallons usable)

Control Surface Movements:

S/N 1118C, 1122C, 600-1123 through 600-1136C:

Elevator	Up	28°	Down	17°
Elevator Tab	Up	15°	Down	20°
Rudder	Left	17°	Right	17°
Aileron	Up	21°	Down	17°

S/N 600-1137C through 600-1154C: (See NOTE 4)

Elevator	Up	28°	Down	18°
Elevator Tab	Up	10°	Down	19°
Rudder	Left	24°	Right	24°
Aileron	Up	21°	Down	17°

S/N 600-1155C and up:

Elevator	Up	22°	Down	17°
Elevator Tab	Up	12°	Down	18°
Rudder	Left	24°	Right	24°
Aileron	Up	21°	Down	17°

Serial Numbers Eligible: 1118C, 1122C, 600-1123C, and up

DATA PERTINENT TO ALL MODELS

Certification Basis: CAR 8.10(a)(1) effective 11 October 1950 and CAM 8, Appendix B, as amended 19 March 1957.
Restricted Type Certificate No. 2A7 issued 29 July 1958
Date of application for Type Certificate 25 October 1956

Production Basis — Production of Spare Parts approved under Production Certificate 5SO. Prior to original airworthiness certification of any aircraft manufactured under this TC, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with the approved technical data, and a check of the flight characteristics.

Equipment — The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis and CAM 8, Appendix B.51) must be installed in the aircraft for certification. In addition, the equipment listed below is required:

Model S-2C S/N 1138C and up and Model 600 S-2C (All Serial Numbers)

(a) Operative pre-stall warning indicator Safe Flight Instrument Corporation lift detector No. 164, 6 volt. (Dry batteries Eveready #1461 powering this unit must be dated and replaced every four months.)
11 lb. (+86.5)

(b) S/N 1137C through 1155C require installation of aileron centering springs per Snow Drawing #751.

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The certificated empty weight and the corresponding center of gravity location must include the following unusable fuel:

Model S-2B: S/N 1003 and 1004 - 84 lb. at (+42)
S/N 1034, 1037, 1038, 1040, 1041, 1043, 1044, 1046, 1047 and 1050B and up - 24 lb. at (+42)

Model S-2C and 600 S-2C:
S/N 1080C through 1253C - 78 lb. at (+38.5)
S/N 1254C and up - 54 lb. at (+38.5)

NOTE 2. The following placards must be installed:

(a) In clear view of the pilot:
All Models - "Fuel gauge calibrated at ¼ tank increments.
Usable tank capacity:
Model S-2B S/N 1003, 1004 - 15 gallons each tank
S/N 1034, 1037, 1038, 1040, 1041, 1043, 1044, 1046, 1047 and 1050B and up -- 20 gallons each tank
Models S-2C and 600S-2C:
S/N 1080C through 1253C - 26.5 gallons each tank
S/N 1254C and up - 50.0 gallons each tank:

"This airplane must be operated in accordance with the following limitations:

Maximum gross weight:	Model S-2B -	3460 lb.
	Model S-2C:	
	S/N 1080C through 1189C	3460 lb.
	S/N 1190C and up - 4400 lb.	
	Model 600 S-2C:	
	S/N 1118C, 1122C, 600-1123C through 600-1189C	3600 lb.
	S/N 600-1190C through 600-1285C	4400 lb.
	S/N 600-1286C and up	4800 lb.

All Models: No acrobatic maneuvers including spins authorized.
Never exceed speed (Vne):
Model S-2B 137 mph CAS
Model S-2C, 600 S-2C 148 mph CAS"

Model S-2C S/N: 1138C and up and Model 600 S0-2C all S/N's: "Stall warning. Switch must be on in flight. Change battery every four months to dated Eveready 6 volt No. 1461. Mark date battery changed on battery. Fuse and spare located in box." "Stall warning light. Test light daily before flight by lifting indicator until light comes on."

"Sulphur dusting is prohibited unless special fire prevention measures have been incorporated in the aircraft."

(b) On hopper for all models:
"Maximum hopper capacity 1000 lb."

(c) Near carburetor heat control knob:
Models S-2B and S-2C - "For maximum carburetor heat place propeller in high pitch and pull carburetor heat control knob."

(d) Adjacent to fuel tank filler necks - all models:

FUEL(*) U.S. GAL. MIN. OCTANE 87
FUEL TANKS ARE INTERCONNECTED ALLOW SUFFICIENT TIME FOR FUEL LEVER TO EQUALIZE BEFORE TOP-OFF OF TANKS. NO AROMATIC FUEL.

* (See "Fuel Capacity" item)

(e) Adjacent to oil filler cap - all models:

OIL TANK
(*) GAL. CAP. * (See "Oil Capacity" item)

(f) Near Tachometer:
Model 600-S-2C - "Avoid continuous ground operations between 1280 and 1800 rpm."

NOTE 3. In addition to the operating limitations set forth in this data sheet, a list of operating limitations as issued by the FAA representative must contain the area operating limitations, economic operating limitations and passenger limitations as prescribed in CAR 8.

NOTE 4. Model S-2C, S/N 1138C through 1191C, and Model 600 S-2C, S/N 600-1137C through 600-1189C, have a modified wing per Snow Drawing #247. Model S-2C, S/N 1138C through 1166C require installation of Vultee BT-13 ring cowling, P/N 74-34019 and North American propeller spinner, P/N 168-44002 to meet this c.g. range.

Model 600 S-2C, A/N 600-1137C through 600-1154C require installation of North American propeller spinner, P/N 168-44002.

NOTE 5. Model S-2C, S/N 1167C and up have a modified horizontal tail per Snow Drawing 5-4016 and an optional constant speed propeller installation per Snow Drawing 5-6112.

NOTE 6. Model 600 S-2C, S/N 600-1155C and up have a modified horizontal tail per Snow Drawing 5-4016.

NOTE 7. Models S-2C and 600 S-2C from S/N 1190C through 1253C have modified wing per Snow Drawings 5-2090, Rev. D, 5-2092, Rev. A, and 5-2081, Rev. C. allowing a g.w. increase to 4400 lb.

NOTE 8. Models S-2C and 600 S-2C from S/N 1254C and up have a modified wing installation per Snow Drawing 20217.

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